

Knowledge Management
Best Practices Recommendation

TOPIC: Database Management – Test Databases

DISCUSSION: FISC San Diego, a site with a large amount of data in their production database, established the following practice to ensure integrity of their production database:

1. Prior to making any changes, running any scripts (even if provided by AMS), or any updates to their production database, FISC San Diego tests the change on a test database.
2. They have established four databases:
 - a. Production
 - b. Test
 - c. 2 Training (One is V4.0, the other is V4.1. Both are official AMS training databases used by AMS to conduct regional training.
3. The production database, of course, contains their current production data.
 - a. They back up their production data nightly in case of system failure or lost data.
 - b. They perform a nightly restore of the production database to a database called “TEST. This database is located on a partition of the same server which houses the Production database. It was originally installed by AMS and has been maintained/overwritten nightly since implementation of PD2.”
 - c. They never make a change directly to the production database because scripts and updates often act differently depending on the configuration of the site. To ensure no unintentional side effects from new scripts updates or versions they always test them before loading onto the production database.
4. The Training databases are separate instances within the site’s server.
5. The test database is also a separate instance on the server or may be loaded on a separate server. AMS will load a test database, if requested by the site, at the time of install.
 - a. A replicated copy of a backed up copy of the production database can be loaded onto the test database.
 - b. Sites should use this or a similar setup to actually run any scripts, fixes or updates before loading to the production database.
 - c. Sites can also use the test database to develop and test local solutions/workarounds, procedures, and business processes.
 - d. The goal is to ensure complete understanding of all impacts resulting from the change. Often changes create unforeseen results due to local site differences in infrastructure, set up, security models etc.

RECOMMENDATION: That all server sites establish a test database using replicated data from their production database before making any changes to their production database.